

Amendment Pursuant to 37 C.F.R. §1.111
Responsive to Office Action of August 24, 2005
USSN 09/991,126
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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is:

1. (Currently Amended) An optical communications system comprising:
 - a transmitter for transmitting an optical signal;
 - a receiver for detecting said optical signal; and
 - an optical fiber communications link interposed between said transmitter and said receiver, said optical fiber communications link comprising:
 - at least one a plurality of Raman assisted EDFA hybrid amplifiers, each having a Raman amplifier variable gain portion, and an EDFA gain portion, and an optical attenuator coupled to the an output of said EDFA gain portion,
 - wherein each of said Raman amplifier variable gain portions is configured to provide an associated gain whereby each of said EDFA gain portions has substantially the same input power throughout said optical fiber communications link.
2. (Currently Amended) The system of claim 1 further comprising at least one dispersion-compensation fiber disposed between at least one of said Raman amplifier variable gain portions and at least one of said EDFA gain portions.
3. (Currently Amended) The system of claim 1 further comprising at least one dispersion-compensation fiber disposed within at least one of said Raman amplifier variable gain portions.
4. (Currently Amended) The system of claim 1 wherein at least one of said EDFA gain portions comprises a multi-stage EDFA.

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5. (Original) The system of claim 4 further comprising a least one dispersion-compensation fiber disposed between stages of said multi-stage EDFA.

6. (Original) The system of claim 1 wherein said optical fiber communication link comprises a plurality of optical fiber spans of varying lengths connected and arranged between said transmitter and said receiver.

7-8. (Cancelled)

9. (Currently Amended) The system of claim 8 1 wherein said optical attenuator of each said plurality of Raman assisted EDFA hybrid amplifiers is adjusted configured to reduce the output power of said EDFA gain portion.

10. (Currently Amended) The system of claim 9 wherein said optical attenuators are configured for reducing the output power of said EDFA gain portions ~~output power is adjusted in 1 dB increments until optimum power is reached to be launched into the next adjacent Raman-assisted EDFA hybrid amplifier.~~

11. (Cancelled)

12. (Currently Amended) The system of claim 8 1 wherein said optical attenuator of each said plurality of Raman assisted EDFA hybrid amplifiers is adjusted configured to reduce the output power of said EDFA gain portion to provide an optimum power to be launched into the next adjacent Raman assisted EDFA hybrid amplifier, ~~and wherein said Raman amplifier variable gain portions are manually adjusted until said EDFA gain portions have substantially the same input power throughout said optical fiber communications link.~~

13-14. (Cancelled).

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15. (Original) The system of claim 6 wherein said optical fiber span lengths range from about 30 to about 110 km.

16-25. (Cancelled)

26. (Currently Amended) A method of amplifying an optical signal on an optical fiber communications link comprising:

providing a first a plurality of Raman assisted EDFA hybrid amplifiers, each having a Raman amplifier variable gain portion, an EDFA gain portion, and an optical attenuator coupled to an output of said EDFA gain portion;

configuring said Raman amplifier variable gain portions to provide an associated gain whereby each of said EDFA gain portions has substantially the same input power;

transmitting said optical signal on said optical fiber communications link through each of said Raman assisted EDFA hybrid amplifiers;

amplifying said optical signal through each of said Raman amplifier variable gain portions;

amplifying said optical signal through each of said EDFA gain portions; and

attenuating output power of said EDFA gain portions.

27. (Currently Amended) The method of claim 26 ~~further comprising adjusting said optical attenuator to add a predetermined loss of output power of said EDFA gain portion, whereby the launch power is optimized.~~ wherein said attenuating the output power of said EDFA gain portions comprises adding a predetermined loss to the output of each of said EDFA gain portions, whereby the launch power into the next Raman assisted EDFA hybrid amplifier is optimized.

28-29. (Cancelled).